

A NEW SPECIES OF *GUDANGA* DISTANT (HEMIPTERA: CICADIDAE) FROM NORTHERN QUEENSLAND

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Abstract

Gudanga pterolongata sp. n. is described and illustrated from northwestern Queensland. Specimens were collected in open woodland between Georgetown and Croydon, during the months of January and February, from 1996 to 2005.

Introduction

The Australian cicada genus *Gudanga* Distant was reviewed by Moulds (1996), who described four new species, bringing the total to six species in the genus. A key was also provided by Moulds (1996). In this paper, a further species is described from northwestern Queensland and relevant adjustments are made to the existing key.

Terminology follows that of Moulds (2005). The following abbreviations are used: AMS - Australian Museum, Sydney; JO - author's collection; MDL - collection of M.D. Lane; MSM - collection of M.S. Moulds; SL - collection of S. Lamond.

Key to species

- 1 Abdominal tergites 1-6 black (entirely lacking areas of orange pigmentation) 6
 - Abdominal tergites 1-6 with obvious areas of orange pigmentation 2
- 2 Hind wing hyaline, orange at base 3
 - Hind wing entirely orange or red basally, remainder fuscous as on forewing 5
- 3 Orange pigmentation covering basal half of hind wing; remainder hyaline. Anal lobe orange with outer half fuscous as on forewing (northwestern Qld) *pterolongata* sp. n.
 - Hind wing without fuscous area 4
- 4 Hind wing with orange suffusion extending beyond anal lobe, the orange beyond lobe mainly along costa [take care not to confuse this area with the orange forewing basal membrane] (southern Qld) *adamsi* Moulds
 - Hind wing with orange confined to anal lobe, almost entirely to the plaga and the area between the plaga and inner margin (southern WA) *kalgoorliensis* Moulds
- 5 Pigmentation of hind wing apical cells 1-5 paler than forewing and showing slight orange suffusion {clearly visible when specimen is held approximately 10 cm above a white background}; abdomen of male in dorsal view nearly parallel-sided for much of its length (southwestern WA) *aurea* Moulds

- Pigmentation of hind wing apical cells 1-5 similar to that of forewing; abdomen of male in dorsal view tapering from base to apex (southern WA) *browni* Distant
- 6 Base of hind wing crimson; remainder of hind wing usually hyaline but sometimes fuscous (southwestern WA) *boulayi* Distant
- Base of hind wing reddish-orange; remainder of hind wing always fuscous, never hyaline (southwestern WA) *solata* Moulds

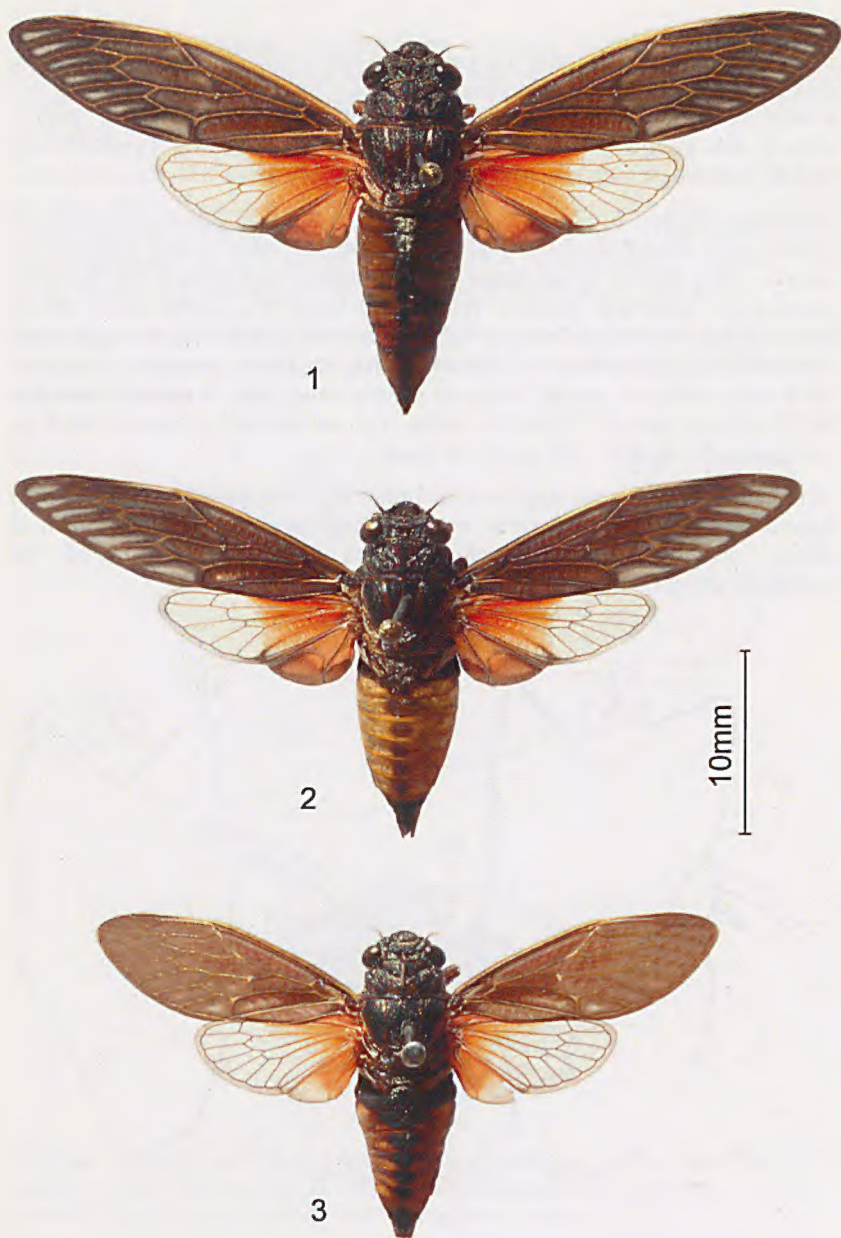
***Gudanga pterolongata* sp. n.**

(Figs 1-2, 4, 7-8)

Types. *Holotype* ♂, QUEENSLAND: Venture Ck, 81 km W Georgetown, 18°13'22"S, 142°48'37"E, 8.ii.2004, J. Olive & J. Thompson (AMS: Reg. No. K225456). *Paratypes*: 4 ♂♂, 1 ♀, Venture Ck, 80 km W Georgetown, 18°13.379'S, 142°48.716'E, 19.i.2005, Hill, Marshall, Moulds (MSM); 1 ♂, Marsupial Ck, E Croydon, 2.ii.2002, J. Hasenpusch (MSM); 2 ♂♂, 76 km W Georgetown, 19.ii.2005, J. Olive & J. Thompson (MDL), 13 ♂♂, 76 km W Georgetown, 19.ii.2005, J. Olive & J. Thompson (JO), 4 ♂♂, Venture Ck, 81 km W Georgetown, 18°13'22"S, 142°48'37"E, 8.ii.2004, J. Olive & J. Thompson (JO); 1 ♂, Croydon, 30.i.[19]96, S. Lamond (SL); 1 ♂, Croydon, 1.ii.[19]96, S. Lamond (SL).

Description. Male (Fig. 2). Head black or brown; a triangular cream mark on midline, extending from between the lateral ocelli to the posterior margin; ocelli reddish-amber; postclypeus brown with cream margin, transverse ridges prominent and moderately covered with white cilia, midline groove becomes wider and deeper anteriorly, dorsal surface tending paler posteriorly, sometimes with anterior pale patch at midline; anteclypeus dark brown; lorum dark brown to black with cream outer margin; rostrum just reaching bases of hind coxae, brown becoming black distally; antenna dark brown basally, gradually becoming lighter apically, apical segments sometimes dark brown to black.

Thorax: pronotum brown with anterior margin cream; midline with a broad dark brown to black fascia along its length, expanded laterally at either end; lateral and paramedian fissures black, with a variable amount of black colouration in adjacent areas; pronotal collar brown with light brown posterior margin and light brown anterior margin in dorsal region. Mesonotum dark brown; submedian sigilla distinct, completely black or brown; lateral sigilla completely black or brown, the black pigmentation extending to the anterior arms of cruciform elevation; midline often light brown; scutal depressions black. Legs brown; femur with longitudinal darker markings. Forewings long and narrow, with length to width ratio 3.3:1; opaque brown-black, more heavily pigmented adjacent to veins; apical cells usually translucent; veins yellow-orange except for cream costa; basal membrane light orange; length greater than body length. Hind wings with basal half, or a little less, deep translucent orange, remainder hyaline; anal lobe light orange, brown-black distally; under magnification distal area

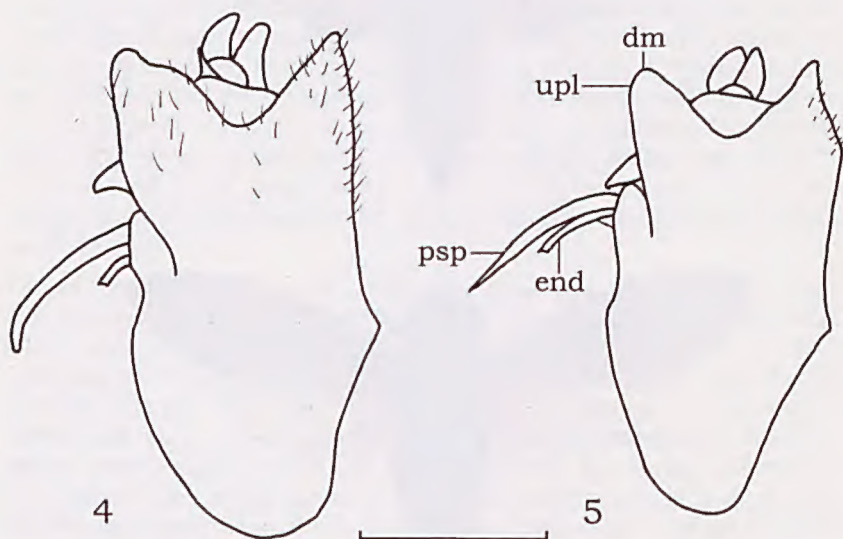


Figs 1-3. *Gudanga* spp. (1) *G. pterolongata* sp. n., female; (2) *G. pterolongata* sp. n., male; (3) *G. adamsi* Moulds. Scale applies to all specimens.

appears embossed with inner margin of this raised area highlighted by a thin, dark line; the fuscous colouration is usually tinged orange and does not always extend to inner margin. Opercula (Fig. 7) long and narrow, paddle shaped; pale yellow, basal swelling and adjacent area brown. Tymbals (Fig. 8) with four long ribs and one short dorsal rib.

Abdomen: tergite 1 brown with anterior margin finely edged orange; tergite 2 yellow with broad brown dorsal patch, anterior edge black; tergites 3-7 yellow with a brown dorsal patch that is broadest on tergite 3, the posterior margins are generally brighter yellow and there is a brown patch at the lateroventral extremities; tergite 8 dark brown to black with approximately anterior third yellow. Sternite I brown to muddy yellow; sternite II brown or black with posterior margin cream to yellow either side of midline; sternites III-VI yellow; sternite VII darker yellow on anterior half, brown or black on posterior half; sternite VIII brown or black.

Genitalia (Fig. 4). Upper pygofer lobe broad with mid-dorsal margin strongly curved outward in lateral view; pseudoparameres apically down-turned in lateral view; endotheca reaching about half the length of the pseudoparameres.

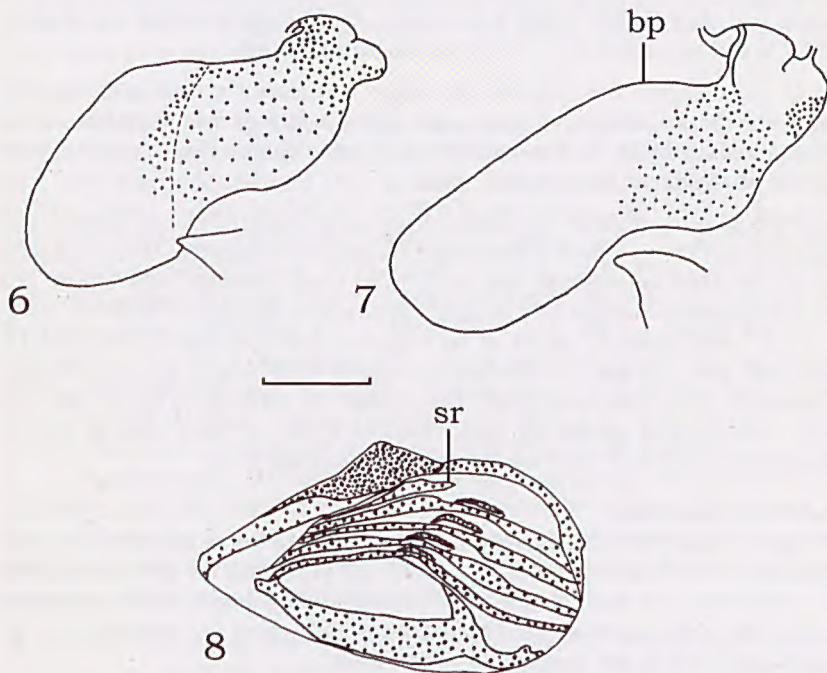


Figs 4-5. *Gudanga* spp., lateral view of male genitalia - dm = dorsal margin, end = endotheca, psp = pseudoparameres, upl = upper lobe of pygofer. (4) *G. pterolongata* sp. n.; (5) *G. adamsi* Moulds. Scale line approx. 1 mm.

Female (Fig. 1). Similar to male except abdomen slightly darker in colour. Ventral surface of abdomen with a broad, black midline. Abdominal segment 9 with dorsal beak and adjacent area black. Ovipositor sheath reddish-brown with apex black; extending just beyond tergite 9.

Measurements. All available specimens were measured. The range and mean (in mm) for 27 males and one female are: Body length - male 16.75-20.5 (18.8), female 19.8; forewing length - male 17.0-20.5 (19), female 20.5; forewing width - male 5.1-6.25 (5.7), female 6.0; head width - male 4.75-5.5 (4.8), female 5.25; pronotum width - male 5.2-6.6 (5.8), female 6.4.

Etymology. Derived from the Greek *pteron*, meaning wing, and the Latin *elongatus*, meaning much longer than wide, being descriptive of the long, narrow forewing.



Figs 6-8. *Gudanga* spp. - bp = basal portion of outer margin, sr = short rib. (6) *G. adamsi* Moulds, right opercula; (7) *G. pterolongata* sp. n., right opercula; (8) *G. pterolongata* sp. n., right tymbal. Scale line approx. 1 mm.

Comments. *Gudanga pterolongata* more closely resembles *G. adamsi* (Fig. 3) that the other described species in the genus. The forewing of *G. pterolongata*, although approximately the same width as in *G. adamsi*, is

considerably longer, being greater than the total body length; the length to width ratio is 3.3:1. In *G. adamsi* the forewing length is less than its body length, with a length to width ratio of 2.5:1. The orange pigmentation on the hind wing of *G. pterolongata* covers approximately the basal half, whereas in *G. adamsi* this colouration is restricted to less than the basal third, including the plagal area. *G. pterolongata* has an area of brown-black pigmentation, similar to that of the forewing on the distal half or so of the anal lobe, that is not present in *G. adamsi*.

There are a few genitalic differences between *G. pterolongata* and *G. adamsi* (Figs 4-5). In lateral view, the upper pygofer lobe is broader in *G. pterolongata*, with the dorsal margin strongly curved outwards compared with the slight curvature in *G. adamsi*. In *G. pterolongata* the pseudoparameres are apically down-turned, with the endotheca reaching to about half their length, while in *G. adamsi* the pseudoparameres are apically straight and the endotheca is more than half their length.

In *G. pterolongata* the opercula are longer and narrower than in *G. adamsi*, with the basal portion of the outer margin being much shorter in *G. pterolongata* (Figs 6-7). The tymbals of *G. pterolongata* (Fig. 8) have a short dorsal rib that is not present in *G. adamsi*.

Distribution and habitat. Specimens have been collected in late January and throughout February from a few locations between Georgetown and Croyden in northwestern Queensland, appearing to be most abundant from 75 km west of Georgetown through to Croydon. Specimens labelled 'Croydon' by S. Lamond were actually taken at an unknown location east of Croyden (S. Lamond, pers. comm.). Adults are associated with *Acacia shirleyi* Maiden, commonly known as lancewood. The cicadas are difficult to find as they are well camouflaged against the dark coloured trunks of these acacias and are most abundant where there are larger groups of these trees.

Acknowledgements

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References

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